# Solutions: Random Variables Checkpoint 2

## Question 1

Select one answer.
*10 points*

The number of people in a car that crosses a certain bridge is represented by the random variable X, which has a mean value $\mu_X = 2.7$, and a variance $\sigma^2_X = 1.2$. The toll on the bridge is \$3.00 per car plus \$ .50 per person in the car. The mean and variance of the total amount of money that is collected from a car that crosses the bridge are:

- (a) mean = \$1.35, variance = \$ .30.
- (b) mean = \$8.60, variance = \$ .30.
- (c) mean = \$8.60, variance = \$ .60.
- (d) mean = \$4.35, variance = \$3.30.
- (e) mean = \$4.35, variance = \$ .30.

**Correct answer: (e)**

## Question 2

Select one answer.
*10 points*

A parking garage has two entrances. Let X be the number of cars that enter the garage through door A in an hour, and Y be the number of cars that enter through door B in an hour. Assuming that $\mu_x = 15$ and $\mu_y = 25$, what is the mean of Z, the total number of cars that enter the garage in an hour.

- (a) 10
- (b) 15
- (c) 25
- (d) 40
- (e) The mean of Z cannot be determined.

**Correct answer: (d)**



Save | Submit and finish